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Debit cards and the cashless society

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DEBIT CARDS AND THE CASHLESS SOCIETY

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February 1993

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DEBIT CARDS AND THE CASHLESS SOCIETY

INTRODUCTION AND BACKGROUND

Forty years ago, Canadians used cash for their day-to-day transactions and cheques for large purchases or the monthly payment of bills. Credit cards were available from some retailers, but were limited to use in the store issuing the card. In the late sixties and early seventies, bank credit cards became available in Canada. By 1991, the "bank credit cards" MasterCard and Visa (now also issued by non-bank financial institutions) accounted for over $40 billion in retail sales or about 10% of consumer purchases.

As the popularity of bank cards grew, the phrases "plastic money" and "cashless society" became more common. Some observers argued that credit cards and predictable developments in the payments system would drive cash from use in the economy. One predictable development has been the debit card, the focus of this paper. The debit card recently introduced in Canada is a plastic card with a magnetic strip on the back that facilitates a transfer of funds from a card user's deposit account to the account of a merchant. (The Appendix shows the typical steps carried out in a debit card transaction.)

The bank card that allows depositors to withdraw funds from an account through an automatic teller machine (ATM) might also be called a debit card; however, this paper generally focuses on the three-party debit card (that is, the one that includes merchants as part of the transaction). A distinction must also be made between the debit card discussed in this paper and the "smart card," which some people also think of as a debit card. The smart card records a withdrawal (e.g., $100) on to a magnetic strip or silicon chip on the plastic card; when the card is handed to a merchant, the merchant's computer terminal subtracts the amount of the

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sale (e.g., $20) from the smart card; the card holder then has $80 left on the smart card for use at other merchants on the network.

The smart card may be considered a hybrid of the bank card and the debit card. Rather than being a two-party or three-party card, it is a double two-party card: its use involves a two-part transaction between a cardholder and his or her financial institution, followed by a two-party transaction between the cardholder and a merchant. The smart card is really plastic money; at any moment it makes available a specific amount of money, so losing it is like losing the same amount of cash. Much of the analysis below does apply to smart cards, but the focus is primarily on three-party debit cards.

Whether the debit card will, in fact, lead to the cashless society will depend on how many people use the card and on how they use it -- in other words, on how the debit card market develops. This development will also determine the public's use of cash, which credit cards, despite their enormous popularity, have not yet replaced. Between 1979 and 1990, for example, currency outside banks grew by 3.3% in real terms (that is, after adjusting for inflation), a modest but positive growth; over the same period, bank card transactions with retailers increased by 230% in real terms.

This paper studies those elements that will shape the development of the debit card market -- who will be the interested players and the issues they will face. This paper also reviews some early experience with debit cards, especially the pilot project in the National Capital Region involving a network of financial institutions and retailers, and the voluntary code by which the interested players have agreed to abide.

THE PLAYERS

There are six groups of players whose interactions will determine the structure of the debit card market.

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A. Financial Institutions

Banks, trust companies, *caisses populaires* and co-ops hold the deposit accounts from which funds will be transferred to merchants. These institutions now offer three products that may compete with debit cards: cheques, direct cash withdrawals (especially from money machines) and credit cards.

An important question is whether debit cards will supplement or replace these other financial products, or simply change them. Some people, for example, now use their credit cards as charge cards, always paying any outstanding balance before the end of the grace period. Such users receive the equivalent of an interest-free loan from the purchase date to the payment date; they might also receive interest on the funds over that period if they have daily interest accounts. To increase the relative attractiveness of debit cards, financial institutions could reduce or eliminate the grace period on credit cards.

Although this paper has lumped all financial institutions into one group, the development of the debit card market in Canada may pit one group of institutions against another. Competition in the early stages of development may be more intense at the association level -- say, the Canadian Bankers' Association versus the Trust Companies Association -- than at the level of the individual institution. The split could also be on the basis of size, with small institutions going against the large ones. Financial institutions have common concerns about the debit market, but they will not necessarily always speak with one voice.

B. Retailers

Retailers may be paid by debit cards, so they are concerned about the cost of the system and who will bear it. Some stores that do not now accept credit cards (for example, supermarkets and liquor stores) may increase their business if potential customers find it more convenient to shop using a debit card. Other retailers (especially department stores) now issue their own credit cards, which they see as an important part of their marketing; these stores are concerned that they will not be able to tap the useful marketing information generated by debit card transactions; this concern is part of the wider issue of privacy that will be discussed below.

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To be part of the debit card network, stores must have special terminals. These terminals are costly and take up space at check out counters, so stores will obviously be reluctant to have more than one type of terminal. The first network to develop may thus be able to create a monopoly; moreover, as the network expanded, this monopoly would become stronger as a potential competitor would have to make a much larger investment to convince retailers to switch networks.

If the cost of handling cash increases, debit cards will become relatively more attractive to retailers. The phasing out of reserve requirements for the chartered banks will affect the retailers' cost of handling cash. Previously, cash counted toward reserve requirements, so cash in the till, even if it was earning no interest, had some value to the banks. Cash has now become a non-interest earning asset and the banks like to minimize its use. One way of doing so would be to raise cash handling charges. The use of alternatives to cash would increase as retailers strove to minimize their costs.

C. Suppliers of Important Inputs

The two most important suppliers are telecommunications carriers and computing companies. Technological changes and the structure of competition in these industries will influence the cost of the debit card network and the extent of competition among issuers of debit cards. A large reduction in the cost of the network computer system, for example, could enable small financial institutions to take a more active role in the debit card market and to put downward pressure on the price of debit card transactions.

D. The Canadian Payments Association (CPA)

The CPA promotes the efficient and secure settlement of payments among its members. The CPA's mandate also includes the requirement to "plan the evolution of the national payments system," which has led it to "facilitate and encourage the replacement of paper with electronic methods so as to contribute to increases in the cost-effectiveness and reliability of the Canadian payments system."

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The CPA was established by Parliament in 1980, and in 1983 assumed responsibility for inter-institutional clearing of cheques, until then performed by private banks through the Canadian Bankers' Association. In this case, the CPA replaced the private sector; in other cases -- for example in setting standards for shared automatic teller machines (ATMs) -- the CPA works with the private sector. Recently, the CPA completed standards and guidelines governing Electronic Funds Transfer at the Point of Sale (EFT/POS).

Of interest with respect to developments in the debit card market will be the relationship between the CPA and the Interac Association, established in the mid-1980s to create a national shared ATM network linking various proprietary ATM systems. Interac has been a driving force in developing a debit card system in Canada and has run the largest pilot project to date. Those financial institutions not charter members of the pilot project are concerned about the possible cost of joining the Interac network (or of establishing their own network, if feasible). An additional concern is that the system is evolving outside the control of the CPA. It remains to be seen how the CPA will react to any dispute between financial institutions over membership in a debit card network.

E. Government Departments

At the federal level, the Department of Finance and the Department of Consumer and Corporate Affairs will be involved in the development of the debit card market. Finance is interested in how debit cards will affect the structure of the financial sector and (with the Bank of Canada) in how debit card transactions will affect recorded movements in money supply. Consumer and Corporate Affairs is interested in the extent of competition in the market for debit cards. The provincial counterparts to these departments will also be involved, especially with respect to any perceived need for consumer protection. As is the case with credit cards and other financial services, use of debit cards raises questions of jurisdiction.

F. Consumers

The most important group of players in the debit card market will be the consumers who use debit cards for their purchases. The success of debit cards will depend on

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consumer acceptance, which will in turn depend on the quality of service they provide and on their relative price. In other words, consumers will accept debit cards only if their perceived net benefits exceed the net benefits of any alternative.

The alternatives to debit cards are cash, cheques and credit (charge) cards. Debit cards rank high in terms of relative convenience. A consumer with a debit card does not need to go to a financial institution or a money machine for cash, or provide several pieces of identification to write a cheque; moreover, the consumer who uses a debit card does not need to visit a financial institution or mail off a cheque when the monthly statement arrives, as is the case with credit cards.

Against the benefits, of course, must be set the costs. In the pilot projects to date, the financial institutions have generally set the price of a debit card transaction at the price of using a cheque. It is doubtful, however, whether this is a long-term relationship. Financial institutions have long complained that the charges for using cheques do not cover the cost of processing them. If debit cards offer a less costly means of payment, financial institutions may increase the price for using a cheque (and thus lower the relative cost of using a debit card) to promote the use of the cards.

The debit card is an innovation and its price and quality, like those of all innovations, will inevitably change over time. With competition, price in the long run will fall in line with costs. But we cannot now say with any certainty what the long-run costs will be or whether consumers will take to the innovation.

THE ISSUES

There are five issues raised by debit cards: competition, security, redress, privacy, and the implications for people with low incomes. Several of these issues are related, but one -- competition -- may be considered of overriding importance.

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A. The Role of Competition

With intense competition, consumers are offered what they want at prices that reflect the cost of the goods and services provided. This, at least, is the textbook picture of competition. According to this picture, competition can be relied on to solve all the issues discussed below. Consumers will get the amount of security they want and are willing to pay for, and they will get the amount of privacy they want and are willing to pay for. Debit card issuers will set up complaint procedures and systems of redress, because this is a way of competing for customers. In all cases, the marginal benefit will equal the marginal cost: an issuer will spend an extra dollar to improve security if the last consumer attracted is willing to spend an extra dollar to pay for it.

The above is, of course, an idealized view of competition, but it is largely accurate. Firms do compete for customers by offering what they think the customer wants -- often lower prices, but also improvements in the quality of a product. Not every customer has the same preferences (for, say, greater security rather than lower prices), but in an intensely competitive world firms will also compete for special classes of customer, carving out niches in the market, rather than competing for the mass of average customers.

In practice, however, we must be concerned with the actual extent of competition in any market. Are there any barriers to entry that would keep out potential competitors? Can a few firms dominate the industry and dictate terms to all the others? If so, prices may be above cost and remain above cost, providing excess profits to those in the industry or to the dominant firms. In the case of debit cards, we need to know the technical and institutional environment that will be in place before we can be confident that unimpeded market forces will handle all potential problems or before we can say that regulations are needed.

B. Security

A debit card transaction involves an immediate withdrawal from a deposit account. The transaction, to use the jargon of computers and electronic funds transfer, occurs in real time; a debit card transaction is thus more like a transaction at a money machine or in

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the branch of a financial institution than a credit card transaction. Because money is immediately withdrawn from an account, security is very important.

In the debit card pilot projects to date, the main safeguard has been the use of a security code (the personal identification number or PIN), the same security measure used with the cards that access money machines. As with all security measures, it is in the best interest of the financial institution to introduce them -- unless, as seems highly unlikely, consumers do not care about security.

Security is costly, so firms will invest only to the point where the marginal cost of improving security equals the marginal benefit. The benefits of having some minimum level of security for a debit card system are extremely high; unless potential users are convinced that the system is secure, that no unauthorized deductions can be made from their accounts, they will not adopt the card. Members of the debit card system, therefore, will cooperate to ensure that the minimum level of security is met.

Standards for security will evolve, and these standards may be codified by an umbrella organization of the network members or by a government department or other public body such as a regulatory board. Even without formal codes, debit card issuers face strong incentives to promote a secure system and abide by implicit standards; they want the system to survive and flourish and be profitable. On the other hand, they want to avoid any losses from a fraudulent use of the system. Finally, these institutions may be able to compete with each other on the basis of relative security; in a highly competitive market, firms can compete in terms of the security of their product (as we see in advertisements for travellers' cheques) just as they compete with respect to its other qualities.

C. Redress

Despite the incentives for debit card issuers to ensure that the system is secure and well-functioning, things can go wrong. Human and mechanical errors are a fact of life; the probability of error can be reduced but not eliminated. If something does go wrong, how will complaints be handled and how will a card user know that the system is fair?

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The issue of redress arose during Parliament's examination of credit cards and other retail services provided by financial institutions. While investigating financial service charges, the House of Commons Standing Committee on Finance examined the role of the Banking Ombudsman in the United Kingdom. The incumbent examines complaints in the light of conformity with the law and accepted banking practices, and may make an award of up to £50,000 if the financial institution has violated law or custom.

Canada has no official position equivalent to the U.K. Banking Ombudsman, although the Office of the Superintendent of Financial Institutions (OSFI) deals with many similar complaints. The large financial institutions in Canada have procedures for handling complaints, but this poses the obvious problem of an apparent conflict of interest. Members of Parliament, especially those on the Finance Committee and the Consumer and Corporate Affairs Committee, occasionally receive complaints from their constituents and take these to the financial institutions involved. This role for MPs may expand with the introduction of debit cards.

D. Privacy

Probably the most fascinating issue connected with debit cards is privacy. If the use of debit cards became widespread, computer technology would allow anyone with access to central data files (if these exist) to draw a comprehensive portrait of any card user.

One possible result is that marketing would become more efficient; information about (say) a new pet food would be made available only to those whose records showed they had purchased something for a pet. A childless pet owner, for example, might receive dozens of flyers each month from companies selling pet food while no longer receiving the occasional flyer for a children's encyclopedia. Some credit card issuers, mainly in the U.S., already compile statistical profiles of their card holders and send out tailored advertising with monthly statements. Supermarkets with computer-linked checkouts now print coupons that reflect consumers' purchases; this increases the probability that these customers will return to the store and that any promotional campaigns will be more successful. Mail order firms have follow-up mails geared to previous purchases. Firms buy lists of magazine subscribers to whom they can direct their advertising. In Canada, the Post Office and Statistics Canada have retabulated the

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census according to postal codes so that mailings can be aimed at districts with certain demographic characteristics.

Increasing the efficiency of marketing seems desirable. If firms spent less on advertising, the prices of the goods being advertised could fall. On the other hand, with improved information, companies might rely more on promotional mailings, thus increasing the total of junk mail; consumers might not feel that slightly lower prices were adequate compensation for such a nuisance.

Some would argue that marketing efficiency is important -- not only might prices be lower, but the flow of information to potential consumers might be greatly improved. Better information leads to a better functioning market, which leads in turn to better products and lower prices. To those promoting marketing efficiency, the use of information from debit card transactions would be merely one more phase in the evolution of marketing, on a par with the sophisticated use of computers by supermarkets.

Of more concern to some is the possibility of a central data bank containing information on all the spending of individuals. If every transaction for every individual was placed in a computer, anyone with access to the computer could use expenditure patterns to put together a detailed profile of any individual. It would be easy to determine age, sex, marital status and family composition; an experienced analyst might be able to estimate social class, education and type of job. Any changes in the individual's life -- a divorce, for example, or being fired -- would show up in spending and be tracked in the computer file.

The spectre of an omniscient Big Brother may be unwarranted. It would, after all, be costly to maintain and process such huge data files; information overload is one of the lessons of the computer age. The cost of computing has, however, fallen rapidly and shows signs of continuing to fall. American Express in the U.S., for example, maintains files on its cardholders, collecting and updating a statistical profile of 450 attributes on a weekly basis. These attributes include purchasing patterns that are used in marketing campaigns; by the late eighties, Amexco's direct marketing arm produced revenues of over $250 million (under the terms of the *Bank Act*, Amex Bank Canada cannot operate a similar direct marketing division). The information collected is obviously of economic value to American Express. As it becomes easier to use data from debit card transactions, privacy will become a more important issue.

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E. Potential Problems for Those with Low Incomes

The user of a debit card, by the nature of the card, must have an account with a financial institution; thus, those with low incomes are likely to be excluded. For some, especially those observers who see debit cards as part of a move to a cashless society, the existence of low-income citizens without accounts at financial institutions poses a stumbling block to acceptance of the debit card system. Others argue that the debit card system should not be expected to handle this problem; rather, there should be government fiscal policies for transferring income to the poor. People without accounts cannot write cheques, but few would argue that everyone in society should therefore be denied the advantages of using cheques.

This is not a new issue. The federal and provincial governments, for example, have been concerned for many years about those who receive social assistance cheques yet do not have accounts at financial institutions. Many of these people, unable to have their cheques cashed at banks, used to end up going to cheque cashing services. In the late 1980s, the federal government and the financial institutions that belonged to the Canadian Payments Association reached an agreement whereby the financial institutions would cash a social assistance cheque if the individual to whom it was made payable presented it in person with a piece of positive identification (an I.D. with both picture and signature or two pieces of identification with the holder's signature). The government agreed to indemnify the institutions from losses on any fraudulent cheques.

A different problem would exist with debit cards; however, the discussion does show that those with low incomes may already encounter problems with financial institutions. During a study of the encashment of government cheques in the mid-1980s, a survey by the Canadian Bankers' Association showed that only about 2% of adult Canadians did not have a relationship with a financial institution.

DEBIT CARD PILOT PROJECTS

The use of bank cards at cash machines is widespread and the cash machines are becoming more sophisticated each day. Because bank cards are, of course, debit cards, most

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consumers might assume that the debit card market is well-developed and quite advanced. This is true for the two-party debit card transactions -- transactions that involve a financial institution and a depositor of that financial institution. The ATM network already allows depositors of one financial institution to use the cash machine of another financial institution, but the transaction is still two-party if one defines the parties as depositors of financial institutions and financial institutions in general.

This paper has been discussing three-party debit card transactions, where the parties are depositors, financial institutions, and retailers. The three-party segment of the debit market is not yet well-developed, although there has been great progress in recent years in establishing the technology and institutional links necessary for it to function.

Much of the technology was developed by individual institutions, with an eye on the obvious need for multi-institution compatibility. The following are some of the institutions and locations involved in recent single-institution debit card pilot projects:

Credit Union Central of Saskatchewan	Saskatchewan
Family Savings and Credit Union	St. Catharine, Ont.
Bank of Nova Scotia	Quebec; Moncton, N.B.
Desjardins Group	Laval, Victoriaville
Royal Bank	London, Ont.
Bank of Montreal	Calgary
National Bank	Montreal
National Trust	Stratford, Ont.
Toronto Dominion Bank	Quebec
CIBC	Quebec

In these pilot projects, the fact that the financial institution had relationships with both the retailer and the consumer alleviated several problems, such as system security and privacy.

In October 1990, the INTERAC Association launched the first multi-institution pilot project for debit cards in Canada. In the project, run in the national capital area (Ottawa-Hull), the members of the INTERAC system, such as major banks, credit unions and trust companies, shared point-of-sale terminals.

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In a speech in November 1991, just after the first anniversary of the start of the pilot project, the president of INTERAC announced that the project had exceeded all expectations. Since its launch, about two million purchases had been made with debit cards and, according to INTERAC figures, more than 98,000 cardholders, about 20% of all ATM cardholders in the Ottawa-Hull region, were regular users. By the end of the first year of the pilot project, over 2,100 locations accepted debit cards, twice the number that had originally signed up.

In view of this success, the President of INTERAC announced that the debit card, or direct payment, service would continue to be offered in Ottawa and would be extended in stages across Canada. The first extension was in Quebec, British Columbia and the Northwest Territories, beginning September 1992. The next two are scheduled for Alberta in May 1993 and for Saskatchewan, Manitoba and northern Ontario in September 1993. Expansion to the Atlantic provinces and the rest of Ontario is scheduled for 1994. This schedule is, of course, subject to change as the debit card system develops. We might note that the bank credit card system took several years to be transformed from a regional to a national system in Canada.

Also in November 1991, the CS Co-op became the first sponsored member of the INTERAC direct payment service network in Ottawa. INTERAC heralded the move as evidence of "the long-term viability of the Direct Payment service in Canada." The move was also important to INTERAC because it demonstrated that the entry fee to sponsored members was not prohibitive, although the CS Co-op may be a unique case. As the largest credit union in the national capital region, with 120,000 members, the Co-op may have been willing to pay more than other financial institutions to join the Ottawa network. Had the Co-op not joined the continuing debit card program in Ottawa, it might have lost a larger proportion of its members than a financial institution with a broader or different geographical base.

At about the same time as INTERAC was heralding the entry of the CS Co-op into the network of financial institutions, there was an important defection from the ranks of the retailers. The Liquor Control Board of Ontario (LCBO) had been a significant part of the pilot project; the fact that its stores did not accept credit cards made the possibility of using debit cards at these stores relatively attractive to consumers. The cost to retailers rose at the end of the first stage of the pilot project, and the LCBO defection may have been a bargaining ploy to

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obtain better terms. As the LCBO withdrew from the network, however, a large supermarket chain entered it.

A CODE OF PRACTICE FOR DEBIT CARDS IN CANADA

The players and issues are similar in any country that introduces a debit card into its payments system. Some countries (United States and Denmark) have dealt with these possible problems with statutes; others (New Zealand and Australia) have used voluntary codes; still others (United Kingdom -- as recommended in the Jack Report) have used a combination of the two.

In 1989, the Department of Consumer and Corporate Affairs set up a Working Group on Electronic Funds Transfer. This group, which included retailers, financial institutions, consumer groups and representatives of federal and provincial departments, began discussing a draft of a voluntary code at the end of 1989, with that discussion based closely on the New Zealand code. In May 1992 the Minister of Consumer and Corporate Affairs announced the *Canadian Code of Practice for Consumer Debit Card Services*.

The Code covers seven issues: (1) Scope, (2) Issuing Debit Cards and Personal Identification Numbers (PINs), (3) Debit Cardholder Agreements, (4) Debit Card Transactions, (5) Liability for Loss, (6) Resolving Disputes, and (7) Review.

Both automatic banking machines (ABMs) and point of sale (POS) terminals in Canada are covered by the Code. It does not preclude protection given by existing laws and standards. Case law is developing with respect to possible misuse -- and liability for misuse -- of cards and machines in the ABM system, and the Code reflects some decisions (such as the cardholder's liability if the PIN is written on the card).

Liability for loss, dispute resolution and privacy were controversial issues to those who worked on the Code, some parts of which represent obvious compromise. For example, a cardholder who has unintentionally contributed to unauthorized use (e.g., a relative has taken the card and found the PIN), will not be liable for the loss, provided he or she co-operates in any subsequent investigation. Debit card issuers must have internal procedures for dealing with problems, but there is no final arbiter; if the issuer reaches an impasse, the reasons must be given and the cardholder informed of the appropriate body to contact to pursue the matter. The

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Code contains no provisions dealing with privacy *per se*, although a section on transaction security relates the PIN to privacy (ABMs and POS machines give access to information on a cardholder's account only when used with the proper card and PIN; ABMs and POS machines allow sufficient privacy for keying in the PIN).

The members of the working group on the Code recognized the importance of privacy in the debit card market. Some members argued, however, that since privacy was an issue affecting many areas of retail banking transactions, it was best treated on a broader basis.

Given that debit cards are a recent financial innovation whose final form is not fixed, it is desirable that a voluntary code be flexible. The Canadian Code is to be reviewed annually, so that it will reflect any technological changes in debit cards. A voluntary code also avoids some possible jurisdictional disputes between the federal government and the provinces over the regulation of financial institutions, which can have either federal or provincial charters. One possible disadvantage of a voluntary code is that it is not directly legally binding; it could, however, have indirect legal effects if the behaviour it stipulated became widely recognized and the courts treated the code as an implied term in the contract between the financial institution and its customer.

CONCLUSIONS

As is the case for any innovation in the early stages of development, it is impossible to state exactly how debit cards will evolve. The initial structure for the market is now in place, and consumers in some parts of Canada have an alternative to cash and, in some stores, to cheques and credit cards. Whether consumers begin to rely on this alternative will depend on the many factors outlined above.

The relative net cost to the consumer is probably the most important factor; however, the "net cost" includes (as for credit cards) several non-monetary elements, such as privacy and security. The number of locations that accept debit cards will determine the convenience of this alternative to cash, just as the number of places accepting a certain type of credit card determines the attractiveness of that credit card. It is, of course, net benefits that are important, and, as the discussion of convenience brings out, non-monetary elements are an important part of these net benefits.

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Most innovations follow a particular pattern -- acceptance is slow at first (take-off), then it accelerates (growth), then it slows (slowdown) until some level of saturation is reached (stability). Some innovations are failures; either acceptance never accelerates or the level of saturation is too low for profitability over the long run. Other innovations, of course, are so successful that they eliminate the competition. The first section of the Code states: "The use of debit cards is not intended to limit consumers' choice among payment methods at the point of sale such as cash, check or credit card." It will, however, be up to the market to decide whether the debit card will be a successful innovation and replace, completely or partially, other means of payment.

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APPENDIX

STEPS IN A TYPICAL DEBIT CARD TRANSACTION

1. Consumer presents debit card, with the purchase, to the cashier;
2. Debit card is run through store's EFT/POS terminal;
3. Amount of transaction is keyed in by cashier;
4. Consumer is given the PIN pad (the amount of the transaction is shown);
5. Consumer verifies the amount;
6. Consumer selects chequing or savings account, and punches in the individualised and confidential PIN (Personal Identification Number);
7. Transaction is verified and completed in seconds;
8. Consumer returns the PIN pad to cashier.

Source: Vas Alexiou and David McInnes, "Will That Be Cash, Credit or Debit," *Canadian Banker*, Vol. 97, No. 3 (May-June 1990), p. 12. (The English text of the *Canadian Banker* article left out the important stage of keying in the PIN which is crucial to the security of the debit card system.)

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Here are the steps of a typical debit transaction:*

1. Consumer presents debit card, with the purchase, to the cashier;
2. Debit card is run through store's EFT/POS terminal;
3. Amount of transaction keyed in by cashier;
4. Consumer given the PIN pad (the amount of purchase is shown);
5. Consumer verifies the amount;
6. Consumer selects chequing or savings account;
7. Transaction is verified and completed in seconds.
8. Consumer returns the PIN pad to cashier.

* A debit transaction is also initiated via a "scrip" terminal. Prior to a purchase, the consumer debits their account via a scrip terminal in the store. It produces vouchers in denominations of $5, $10, $20, and $40 that can then be redeemed at the check-out for a purchase. (Change is given from the difference of the purchase price and the voucher amount, known as "cash-back.")

New technology sometimes raises consumer concerns

The PIN, in combination with the card, protects access to the account. This means, for example, that even if the customer leaves the card at the counter, the cashier will be unable to access the account — unless the PIN has been revealed!

Stringent security

Advanced techniques (known as cryptography) employ the use of coded data and secret keys to protect the confidentiality of the PIN and the contents of the transaction from being altered. In the unlikely event that a telecommunication line be tapped, for instance, all EFT messages would appear garbled and unreadable.

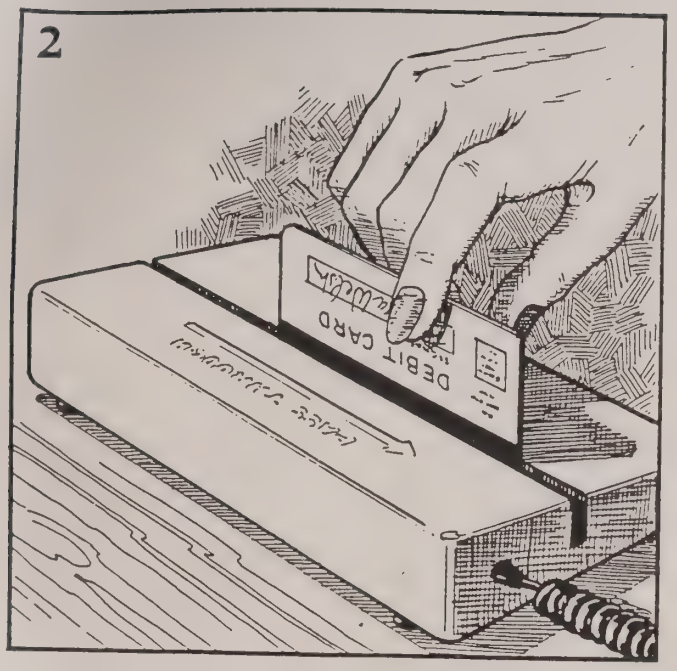
The PIN security and stringent system security are the fundamentals of consumer protection.

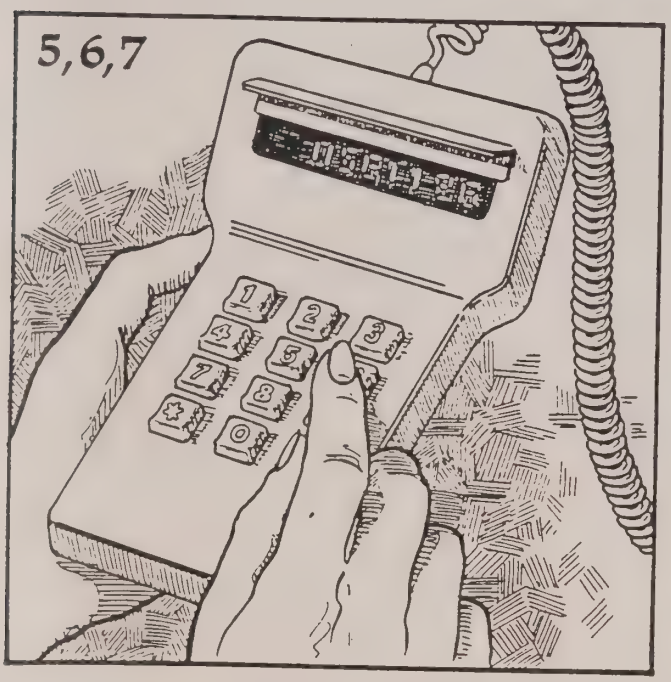
As they have always done, banks will continue to honour the confidentiality of customer information. In EFT/POS, only the information that is needed to complete the transaction is used by the banks.

EFT/POS code

Attentiveness to consumer protection goes even further. The banks are involved in establishing a voluntary code of rights and responsibilities for all debit card participants: consumers, retailers and financial institutions. Banks are full supporters of this emerging "code of practice" which is being co-ordinated by the federal government. The code should be in place by the end of 1991.

"Our participation in this process clearly portrays to government and consumer advocates that banks take the consumer interest seriously," says Joanne De Laurentiis, a vice president of The Canadian Bankers' Association and member of the code's task force.





Consumers have their part to do, too. Memorizing the PIN is a major part of card security. Writing one's PIN on the back of the card is careless and foolhardy — like having a signed cheque in your wallet — an "electronic cheque."

Less-cash society?

Is the debit card the key to the so-called cashless society? Likely not. Contrary to prediction, the teller has not been displaced with the banking machine. Plastic has not bumped cash. (While Canadians have on average more than two credit cards each, cash represents an overwhelming 89 per cent of all transactions.) Debit cards may only herald a "less-cash society," not a cashless society.

Debit cards may only herald a "less-cash society," not a cashless one

Of course, the success of the debit card will only be truly measured by the public's acceptance of another payment alternative. The regional pilots will shed some light on this. But it will only be when cashiers can ask customers nationwide: "will that be cash, credit or debit?" that it can be said that Canada has entered the year of the debit card. □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